

REMARKS / DISCUSSION OF ISSUES

Claims 1-21 are pending in the application. Claims 1-21 are rejected.

Applicant thanks the Examiner for reconsideration and withdrawal of the finality of the last Office Action.

Claim Objections

Claims 12 and 13 are objected to because of informalities. The Applicant notes that the addition of the word transceiving more clearly states the claimed invention and the corrections have been made. The claims are not narrowed in scope and no new matter is added. Withdrawal of the objection to claims 12 and 13 is respectfully requested.

35 U.S.C. §112, second paragraph rejection

On page 3 of the non-final Office Action claims 1-11 and 12-21 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the claimed invention. In particular Office Action states that there is insufficient antecedent basis for the limitation “the signal path” in claim 1, that there is insufficient antecedent basis for the limitation “the value” in claim 3, that there is insufficient antecedent basis for the limitation “the RF signal path” in claim 7, that there is insufficient antecedent basis for the limitation “the signal path” in claim 12, that there is insufficient antecedent basis for the limitation “the value” in claim 14, and that there is insufficient antecedent basis for the limitation “the multiple antennae” in claim 15.

The applicant has amended claims 1, 3, 7, 12, 14 and 15 to provide proper antecedent basis. The claims are not narrowed in scope and no new matter is added. Withdrawal of the rejection of claims 1-11 and 12-21 under 35 U.S.C. §112, second paragraph is respectfully requested.

35 U.S.C. §102 rejection

On pages 4-9 of the non-final Office Action claims 1-7, 9, 11-14, 19 and 21 are rejected under 35 U.S.C. §102(e) as being anticipated by Sugar *et al.* (US Patent Publication No. 2003/0181165). The Office Action states that “Sugar *et al.* discloses ... a transmitter

(212 in figure 2) having first and second transmitting antennae (202, 204 in figure 2), the signal path of the first antennae exhibiting a different delay than the signal path of the second antenna (par 0038, lines 1-14) ... and a receiver (214 in figure 2) having third and fourth (206 and 208 in figure 2) receiving antenna, the signal path of the third antenna exhibiting a different delay than the signal path of the fourth antenna (par 0038, lines 1-14)".

Applicant respectfully brings to the Examiner's attention that the cited section of Sugar *et al.* discloses that "the AP may send the data unit once using transmit delay diversity. This means essentially that a delay is introduced between the transmissions of the data unit among the plurality of AP antennas according to a transmit vector $x(t)=[x_{\text{sub}.0}(t), x_{\text{sub}.1}(t-\tau_{\text{sub}.D}), \dots, x_{\text{sub}.N-1}(t-(N-1)\tau_{\text{sub}.D})]$, where N is the number of AP antennas used for transmission and $\tau_{\text{sub}.D}$ is a transmit delay parameter. In essence, the signal will be sent from each antenna with a different delay spread and such that the maximum delay spread between any two antennas is $(N-1)\tau_{\text{sub}.D}$. It has been found through performance simulations that a transmit delay parameter $\tau_{\text{sub}.D}$ of 1000 ns provides optimal delay spread, but can be programmable to span 50 ns to 150 ns, for example." (par 0038, lines 2-14).

Sugar *et al.* does not disclose the claimed invention, a transmitter having first and second transmitting antennae, the first antenna having a signal path exhibiting a different delay than a signal path of the second antenna; and a receiver having third and fourth receiving antennae, the third antenna having a signal path exhibiting a different delay than a signal path of the fourth antenna.

Importantly for the claimed present invention, there is a diversity of transmit signal paths, with one path exhibiting a delay of zero and the other a delay of τ_1 and there is also a diversity of receive signal paths, as the RF signal path of the receiving antenna 38 of a mobile terminal exhibits a delay of τ_2 while the receiving antenna 36 exhibits a delay of zero. In contrast to the present invention Sugar *et al.* does not teach a receiver antenna having a signal path exhibiting a different delay, Sugar *et al.* discloses only introducing a "transmit delay τ_D of 1000 ns [which] provides optimal delay spread, but can be programmed to span 50 ns to 150 ns". (par 0038, lines 1-14).

A proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. See, e.g., *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990).

Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. See, e.g., *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. See, e.g., *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

The Office Action fails to provide evidence that each and every element of the claimed invention be disclosed in a single prior art reference. Claims 1-7, 9, 11-14, 19 and 21 not anticipated by Sugar *et al.* Withdrawal of the rejection of claims 1-7, 9, 11-14, 19 and 21 under 35 U.S.C. §102(e) is respectfully requested.

35 U.S.C. §103 rejection

On page 9-15 of the non-final Office Action claims 8, 10, 16, 17, 18 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sugar *et al.* in view of Joo *et al.* (US Patent Publication No. 2003/0095533).

As stated in MPEP § 2143, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

While Applicants do not concede that the first two criteria are met, because the reference(s) fail to disclose at least one feature of the claims, a *prima facie* case of obviousness has not been established.

Claims 8 and 10 depend directly or indirectly from claim 1, which is patentable over the applied art for at least the reasons set forth above. While Applicants by no means concede the propriety of this rejection, claims 8 and 10 are patentable over the applied art for at least the same reasons as claim 1.

Claims 16, 17, 18 and 20 depend directly or indirectly from claim 12, which is patentable over the applied art for at least the reasons set forth above. While Applicants by no means concede the propriety of this rejection, claims 16, 17, 18 and 20 are patentable over the applied art for at least the same reasons as claim 12.

Conclusion

In view of the foregoing, applicant respectfully requests that the Examiner withdraw the objections and rejections of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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